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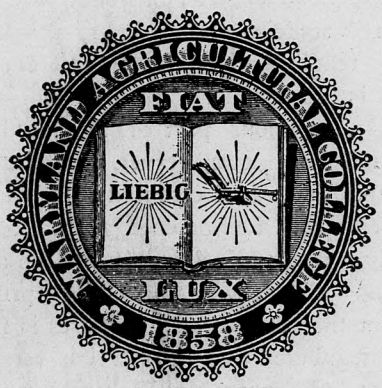
FEED STUFF ANALYSES.

PURE FOOD LAW, PURE PAINT LAW.

R. W. SILVESTER, - - - - President.

Edited by H. B. McDONNELL, Professor of Chemistry.



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ADDRESS

Chemical Department, Maryland Agricultural College,

COLLEGE PARK, MD.

ANALYSIS OF

Commercial Feeding Stuffs Sold in Maryland

BY THE CHEMICAL DEPARTMENT OF

THE MARYLAND AGRICULTURAL COLLEGE.

DR. H. B. McDONNELL, Professor of Chemistry,—State Chemist.
J. J. MORGAN, B. S., Assistant Professor of Chemistry.
R. C. WILEY, B. S., Assistant Chemist.
GEO. H. HARDIN, B. S., Assistant Chemist.
F. G. BAGGS, Clerk.

This bulletin contains the analyses of samples of feed stuffs which have been obtained since June, 1907, except a few farmers' samples that were omitted, by an oversight, but will appear in the May Quarterly.

The analyses are not complete, but show the percentage of protein and fat, which is sufficient for ordinary purposes, as the quality of the feed may be readily judged from these constituents, the most important of which is the protein.

Protein is the nitrogenous part of the feed and is absolutely necessary to build muscle, sinews, nerves, hair, feathers, etc., in fact, enters into the composition of all essential parts of the body.

Fat can only serve as a fuel or energy producer, or to build fatty tissue, which is only a reserve fuel supply for the animal, whatever it may be. Protein may also serve as an energy producer and may be used to form fat, but the use for such purposes is not profitable.

It should be remembered that in materials very low in protein, as straw, corn bran, oat hulls, peanut hulls, etc., a smaller percentage of the protein is digestible than is the case with high-grade feeds.

This department wishes to have the cooperation of feeders and dealers in the inspection of concentrated feeds and will be glad to analyze samples, provided samples of the same feeds have not been recently analyzed in the department. Before sending samples write for blanks and instructions. We will not analyze samples of medicines, "condition powders," condimental feeds, or the so-called "feeds" that are "five feeds for a cent" to be mixed with the regular feed. Careful experiments at a number of the experiment stations have proved that these medicinal "feeds" are of no practical value.

SHOULD MARYLAND HAVE A PURE FOOD LAW AND A PURE PAINT LAW?

We have had fertilizer inspection laws in force in Maryland for over twenty years. The earlier laws, however, were ineffective, principally because funds were not provided for carrying them into effect. The Act of 1894 remedied this and there have only been minor changes in the law since that time. More recently we have had the Feed Stuff Law made necessary by the variable quality of the by-products used as feeds or feed adulterants. The results of analyses under these laws have been sent out to all persons requesting the same, till we now have a regular mailing list of 21,000 names. Similar inspections should be maintained with regard to foods, drugs and paints.

Pure food laws are not new or novel; they have been in operation in most of the states and foreign countries for years, and in a majority of the states the work is in charge of the Departments of Agriculture or the State Agricultural College or Experiment Station. Of recent date is our National Law the enforcement of which is in charge of the United States Department of Agriculture.

This law, it must be remembered, can only apply to "inter-state commerce," that is to foods shipped into this State from other States, or shipped out of this State, and not to foods manufactured or produced within the State and used here. While the National Law has only been in force for so short a time nearly every one must have noticed some of its good effcts. "Potted Ham" became "Potted Meat;" "Picnic Ham" became "Shoulder;" the label on the catsup bottle will tell you what chemical is in it, etc. The principal objection has come from those who mix alcohol with water and burnt sugar and insist on calling the mixture "whiskey."

The public are probably more familiar with the adulteration of milk and butter than with other forms. Sausage is frequently adulterated, or "filled;" also cheese. Other foods not unfrequently adulterated are coffee, tea, honey, maple sugar and maple syrup, candy, olive oil, lard, and spices. In some of the earlier inspections in Massachusetts and Canada the following results were respectively found:

	Samples Examined.	Per Cent. Adulterated.	Samples Examined.	Per Cent. Adulterated.
Black Pepper	64	70	25	79
White Pepper	44	70	60	65
Mustard	66	62	68	65
Cloves	11	100	91	84
Cassia (Cinnamon)	2	100	74	36

Adulteration deceives and robs the buyer; it subjects other dealers to unfair competition and compels them to adopt the same unfair means and, in some forms, adulteration is detrimental to health, especially when chemicals are used as preservatives, colors, etc.

Surely, with nearly all of the states having general pure food laws, and the United States having a pure food law, it is about time for Maryland to get in line.

(Continued on Page 8.)

ANALYSES OF FEEDING STUFFS.

No.	Name of Manufacturer or Agent.	Name of Feeding Stuff.	Place of Sampling.	Protein.		Fat or Ether Extract.	
				Found.	Guaranteed.	Found.	Guaranteed.
13335	Darling & Co., Chicago, Ill.....	Pure Ground Beef Scraps	Baltimore	66.00	55.	13.30	10.
13358	Darling & Co., Chicago, Ill	Beef Scraps for Poultry.	Cockeysville.....	49.14	55.	12.05	10.
13336	Armour Fertilizer Works, Baltimore, Md.	Beef Scraps.....	Baltimore.	65.64	50.	17.40	12.
13309	Armour Fertilizer Works, Baltimore, Md.	Meat Meal.....	Baltimore.	66.68	50.	15.75	10.
13314	American Cotton Oil Co., New York, N. Y.	Cotton Seed Meal.....	Rocks	45.43	41.	8.82	9.
13312	Greenwood Oil Co.....	Cotton Seed Meal.....	Frederick	41.42	.....	8.37	.....
13337	F. W. Brodie, Memphis, Tenn.	Owl Brand Pure Cotton Seed Meal.	Baltimore.	40.36	41.	11.87	7.
13379	J. Lindsay Wells Co., Memphis, Tenn.	Moon Brand Prime Cotton Seed Meal.	Baltimore.	39.66	38.	11.40	9.
13380	J. Lindsay Wel's Co., Memphis. Tenn.	Star Brand Cotton Seed Meal.	Baltimore.	39.84	41.	9.72	9.
13365	N. C. Cotton Oil Co., Henderson. N. C.	Cotton Seed Meal.....	Baltimore.	37.56	.....	7.80	.....
13377	Tennessee Cotton Oil Co.....	Prime Cotton Seed Meal.	Baltimore..	39.49	38.61	10.10	8.
13315	American Linseed Co., New York, N. Y.	Old Process Oil Meal...	Rocks.	35.98	32.	6.62	5.
13346	Bent-Croissant Co.....	Milk Albumen.....	Baltimore.	45.98	43.	1.17	15.
13333	Quaker Oats Co., Chicago, Ill...	Schumacker Calf Meal..	Frederick	22.03	19.	8.02	8.
13323	Duetsch & Seckert, Milwaukee, Wis.	Climax Grains.....	Fallston	36.50	34.	14.07	11.
13332	Western Dairy Feed Co., Milwaukee, Wis.	Red Cow Dairy Feed...	Massey.....	22.03	16½.	4.22	3½.

13302	Roxbury Distilling Co., Roxbury, Md.	Dried Distillers' Grains.	Hagerstown.....	14.74	.....	7.34	.....
13303	Western Grain Products Co., Milwaukee, Wis.	Hammond Dairy Feed..	Hyattsville.....	17.60	17.	6.63	3.
13330	Western Grain Products Co., Hammond, Indiana.	Hammond Dairy Feed..	Street.....	16.32	17.	6.12	3.
13311	American Milling Co., Chicago, Ill.	Sucrene.....	Silver Spring.....	18.87	16.50	6.20	3.50
13305	American Milling Co.....	Sucrene Dairy Feed....	Detour.....	17.55	16.50	7.93	3.50
13306	American Milling Co.....	Sucrene Horse, Mule and Ox Feed.	Detour.....	12.99	10.	5.77	3.
13357	Dairy Food Co., Cockeysville, Md.	Dried Grains.....	Cockeysville.....	17.02	18.	10.80	10.
13308	Monticello Distilling Co.....	Distillers Rye Grains...	Long Green.....	16.85	22.	10.20	11.
13339	The American Cereal Co., Chicago, Ill.	Schumacker Stock Feed	Baltimore.....	11.50	10.	4.22	4.
13352	Central Feed Co., Baltimore, Md.	Horse Feed No. 1.....	Baltimore.....	11.14	.....	3.67	.....
13353	Central Feed Co., Baltimore, Md.	Horse Feed No. 2.....	Baltimore.....	10.71	.....	3.57	.....
13354	Cover Supply Co., Baltimore, Md.	Horse Feed.....	Baltimore.....	10.62	.....	3.85	.....
13318	Great Western Cereal Co., Chicago, Ill.	Daisy Dairy Feed.....	Cardiff.....	13.43	16.	3.65	3.
13378	R. C. Wells & Co., Baltimore, Md.	Horse Feed.....	Baltimore.....	12.29	.....	4.27	.....
13359	J. M. Frisch & Co., Baltimore, Md.	King Corn and Oats Feed	Baltimore.....	8.78	8.	2.41	4.
13367	Pebu Milling Co.....	C. & O. Feed.....	Baltimore.....	9.39	7.	5.27	4.40
13319	Great Western Cereal Co., Philadelphia, Pa.	Boss Chop Feed.....	Belair.....	10.09	10.	5.05	5.
13326	Washburn Crosby Co., Indianapolis, Ind.	Bran.....	Forest Hill.....	15.97	15.	5.17	4.
13327	Washburn Crosby Co., Indianapolis, Ind.	Coarse Bran.....	Havre de Grace..	16.32	15.	5.27	4.
13329	Washburn-Crosby Co., Indianapolis, Ind.	White Flour Middlings..	Aberdeen.....	20.62	17.	6.07	5.
13328	Washburn-Crosby Co., Indianapolis, Ind.	Standard Middlings.....	Havre de Grace..	19.48	16.	5.90	4.

ANALYSES OF FEEDING STUFFS.

No.	Name of Manufacturer or Agent.	Name of Feeding Stuff.	Place of Sampling.	Protein.		Fat or Ether Extract.	
				Found.	Guaranteed.	Found.	Guaranteed.
13321	Jas. Quirk Milling Co., Montgomery, Minn.	Middlings	Fallston	18.16	17.25	6.22	5.25
13325	Reckord Mfg. Co.	White Middlings	Bel Air	13.25	.....	2.37	.....
13324	Reckord Mfg. Co.	Corn and Oats Chop	Bel Air	10.88	.....	3.52	.....
13360	David E. Fouts Co., Baltimore, Md.	Superior Poultry Food	Baltimore	20.88	20.	10.17	8.
13316	American Milling Co., Chicago, Ill.	Sucrene Poultry Feed	Rocks	17.90	17.50	6.67	5.50
13340	Bolgiano's Seed Store, Baltimore, Md.	Square Deal Pigeon Food.	Baltimore	12.29	11.06	3.92	4.44
13343	Bolgiano's Seed Store, Baltimore, Md.	Square Deal Poultry Food.	Baltimore	12.20	11.50	2.70	3.87
13341	Bolgiano's Seed Store, Baltimore, Md.	Square Deal Chick Starter.	Baltimore	11.41	9.48	4.50	4.14
13423	Bolgiano's Seed Store, Baltimore, Md.	Square Deal Chick Food.	Baltimore	11.32	10.	3.92	3.89
13344	John J. Buffington & Co., Baltimore, Md.	Buff Brand Chick Feed.	Baltimore	10.27	10½.	3.02	3.
13345	John J. Buffington & Co., Baltimore, Md.	Globe Scratch Feed	Baltimore	11.58	10½.	2.87	3.
13350	Cyphers Incubator Co., Buffalo, N. Y.	Laying Food	Baltimore	17.55	17.31	3.05	3.8
13351	Cyphers Incubator Co., Buffalo, N. Y.	Pigeon Food	Baltimore	13.16	10.5	3.27	2.1
13349	Cyphers Incubator Co., Buffalo, N. Y.	Scratching Food	Baltimore	12.20	10.78	3.27	3.50
13348	Cyphers Incubator Co., Buffalo, N. Y.	Developing Food	Baltimore	11.76	10.	3.10	3.72

13347	Cyphers Incubator Co., Buffalo, N. Y.	Chick Food	Baltimore	10.97	10.54	3.35	3.4
13356	Albert Dickinson Co., Chicago, Ill.	Globe Scratch Feed	Baltimore	12.02	10½.	3.12	5.
13317	Albert Dickinson Co., Chicago, Ill.	Sun Chick Starter	Havre de Grace	10.44	10.	3.47	3.
13355	Albert Dickinson Co., Chicago, Ill.	Crescent Chick Feed	Baltimore	10.35	10½.	3.12	3.
13363	Great Western Cereal Co., Chicago, Ill.	Sterling Scratch Feed	Cockeysville	11.93	12.	3.85	3.
13304	Great Western Cereal Co., Chicago, Ill.	Sterling Chick Feed	Hyattsville	11.85	12.	3.90	3½.
13364	L. Kellum & Co., Baltimore, Md.	Scratch Food	Baltimore	13.95	.....	3.97	.....
13366	J. Mann, Baltimore, Md.	Chick Food	Baltimore	10.18	.....	2.90	.....
13371	Purina Mills, St. Louis, Mo.	Purina Mash	Baltimore	17.64	.....	3.07	.....
13372	Purina Mills, St. Louis, Mo.	Scratch Size	Baltimore	13.43	11.	2.77	3.6
13370	Purina Mills, St. Louis, Mo.	Chick Size	Baltimore	12.37	11.	3.95	3.6
13369	Purina Mills, St. Louis, Mo.	Chick	Baltimore	12.02	11.	4.85	3.6
13373	W. G. Scarlett & Co., Baltimore, Md.	Oriole Brand H. G. Poultry Food.	Baltimore	12.72	10.71	3.55	4.41
13374	W. G. Scarlett & Co., Baltimore, Md.	Shield Brand H. G. Chick Feed.	Baltimore	12.37	9.56	3.82	3.64
13368	Peru Milling Co.	Gold Medal Chick Feed.	Baltimore	10.88	.....	2.75	.....
13331	Western Cereal Co., Chicago, Ill.	Sterling Chick Feed	Fallston	11.58	12.	3.62	3½.
13376	Wm. A. Simpson & Co., Baltimore, Md.	Purity Poultry Feed	Baltimore	11.32	10½.	2.85	3.
13375	Wm. A. Simpson & Co., Baltimore, Md.	Purity Chick Feed	Baltimore	10.18	10½.	2.95	3.

(Continued from Page 3.)

It is proposed that such a law follow closely the lines of the National Law.

PURE PAINT LAW. Paint inspection is comparatively new. The first state to adopt it being North Dakota, about two or three years ago. Some four or five states have passed similar laws during the present year. Conditions have become so bad that manufacturers, painters and users are all demanding relief, when acquainted with the real conditions.

The only oil fit for paint and available for that purpose is linseed oil, which has the property of taking up oxygen from the air and forming a solid, rubber-like coating. In doing this it increases in weight. It does not evaporate, as kerosene, or other similar oil, would do. So the "drying" of the oil is a hardening process. Linseed oil is said to be frequently adulterated.

Ordinary paints should be mixtures of linseed oil with one or more pigments, the latter being solids in a fine state of subdivision. Formerly the white pigment almost always used was white lead, which is a compound made from ordinary lead. Later, oxide of zinc, or zinc white, has been used to a considerable extent, especially to mix with white lead and other pigments. Now barytes, a heavy white mineral or rock, after being finely ground, is extensively used and is frequently sold as white lead or as an extensive adulterant of white lead. As barytes costs only one-half cent to one cent per pound and white lead or zinc costs six or seven cents, wholesale, the difference in cost is obvious. Other cheap materials used are chalk, plaster, soapstone, ocher, silica or finely-ground sand, etc.

Two samples of "white lead" recently purchased by us gave the following results when analyzed:

		Per Cent.
White Lead	15	7½
White Zinc	16	8½
Barytes	56	74
Oil	9	8
Undetermined	4	2

Prof. Ladd, of North Dakota, found the following percentages of barytes in different samples of so-called white lead: (we give the nearest per cent. or pounds per hundred, avoiding fractions), 76, 30, 76, 72, 26, 90, 69 and 74. He also found that many of the ready mixed paints were made of the cheapest materials, including much water, sometimes as much as 24 per cent.—nearly one-fourth. Such paints are but little better than whitewash.

It is proposed that paints and paint materials should be put up with a guaranteed analysis and that they be inspected and analyzed to see that the guarantees are correct.

If you desire either or both of these laws your Delegates to the Legislature should be informed of this fact. This department is in a position to do a maximum of work at a minimum expense, as we now maintain regular inspection in three-fourths of the counties of the State, and occasional inspections in the remainder. Our laboratory is also well equipped for the work.